

PROCEEDINGS
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ELEVEN NEW MAMMALS FROM LOWER CALIFORNIA.

BY E. W. NELSON AND E. A. GOLDMAN.

Among the mammals in the Biological Survey Collection from Lower California, Mexico, are eleven undescribed species and subspecies, all except one of which were obtained by us during our visit to the Peninsula in 1905-1906. The exception—a *Bassarisceus*—was collected by J. E. McLellan on San José Island in the summer of 1895.

These descriptions are published in advance of our report on the mammals of the Peninsula now in course of preparation.

***Eutamias merriami meridionalis* subsp. nov.**

LOWER CALIFORNIA CHIPMUNK.

Type from Agnaje de San Esteban, about 25 miles northwest of San Ignacio, Lower California, Mexico (altitude about 1,200 ft.). No. 139,597, U. S. National Museum, Biological Survey Collection. ♀ adult. Collected October 5, 1905, by E. W. Nelson and E. A. Goldman. Original number 18,268.

General characters.—Most nearly related to *E. m. obscurus* but smaller and grayer.

Color of type (slightly worn October pelage).—Top of head grizzled gray tinged with brownish and bordered by brownish line; markings on sides of head as in *obscurus*, but paler; median dorsal stripe dull rusty brownish, becoming blackish on posterior third and obsolescent on rump; middle pair of dark stripes rusty brownish, similar to anterior half of median stripe; outer pair of light stripes pale whitish gray; inner pair of light stripes darker gray; sides of body between fore and hind legs pale dingy buffy; entire rump and outer sides of hind legs pale grizzled gray, much paler than in *obscurus* and differing little from general shade of back; fore and hind feet and front of forelegs pale grayish, with slight tinge of dull buffy; top of tail blackish, washed with pale buffy gray; black on tail underlaid by a buffy basal zone; middle of underside of tail bright rusty rufous, bordered by black with an outer margin of gray.

Skull.—Distinctly smaller and slenderer than in either *merriami* or *obscurus*; zygomatic arches compressed, thus accenting general narrowness

of skull; braincase much narrower and less inflated than in *obscurus*; bullæ smaller.

Measurements of type.—Total length, 237; tail vertebrae, 117; hind foot, 33. Skull: basilar length, 27; zygomatic breadth, 18.3; interorbital breadth, 8.5.

Ammospermophilus leucurus insularis subsp. nov.

ESPIRITU SANTO SPERMOPHILE.

Type from Espiritu Santo Island, Lower California, Mexico. No. 146,783, U. S. National Museum, Biological Survey Collection. ♀ adult. Collected February 7, 1906, by E. W. Nelson and E. A. Goldman. Original number 19,072.

General characters.—Similar to *leucurus* but larger, and underside of tail grizzled with black.

Color (fresh winter pelage).—Top of head, back, and upper part of sides grizzled brownish fawn color with a white stripe along each side of back as in *leucurus*; back of neck and middle of shoulders paler and more grayish than rest of upperparts; shoulders and outside of hind legs dull fawn color much less suffused with vinaceous than in *peninsulæ*; underparts including lower cheeks, sides of neck and flanks, dull whitish; underside of tail blackish thinly mixed with dull white; underside dull whitish usually more or less strongly grizzled with black and with a black border.

Skull.—Larger than that of *leucurus* or *peninsulæ*; rostrum broader and heavier, and frontal area, including base of rostrum, fuller and more arched; bullæ proportionately smaller.

Measurements of type.—Total length, 232; tail vertebrae, 77; hind foot, 36. Skull: basilar length, 32.6; zygomatic breadth, 24.6; interorbital breadth, 10.5.

Thomomys magdalena sp. nov.

MAGDALENA ISLAND POCKET GOPHER.

Type from Magdalena Island, Lower California, Mexico. No. 146,832, U. S. National Museum, Biological Survey Collection. ♂ adult. Collected December 3, 1905, by E. W. Nelson and E. A. Goldman. Original number 18,743.

General characters.—Most closely related to *T. b. anitæ* of adjacent mainland but much paler, more buffy; skull larger, more massive and much more angular. Closely resembling *russelotus* in color, but skull very different.

Color (rather worn pelage).—Upperparts pale, slightly ochraceous, buffy; underparts, including lips, dull creamy white; feet and tail thinly covered with whitish hairs.

Skull.—Similar in size to that of typical *bottae* but much more massive; rostrum shorter and heavier; ascending branches of premaxillæ broader; zygomatic arches much narrower posteriorly (not strongly bowed outward as in *bottae*), sides less nearly parallel; interorbital region broader; braincase more elongated, narrower, more squarely truncated posteriorly, lambdoid crest less sinuous; bullæ larger. Compared with that of *anitæ*,

larger, heavier; zygomatic arches more strongly divergent anteriorly; braincase more elongated; palate with posterior median extension thinner; palatopterygoids broader; molar series heavier; incisors more decurved—not projecting forward beyond tip of nasals as in *russeolus*.

Measurements of type.—Total length, 255; tail vertebrae, 87; hind foot, 36. Skull: basilar length, 38.4; zygomatic breadth, 29.1; alveolar length of upper molar series, 8.9.

Thomomys bottae russeolus subsp. nov.

SAN ANGEL POCKET GOPHER.

Type from San Angel, 30 miles west of San Ignacio, Lower California, Mexico. No. 139,920, U. S. National Museum, Biological Survey Collection. ♂ young adult. Collected October 15, 1905, by E. W. Nelson and E. A. Goldman. Original number 18,355.

General characters.—Color as in *magdalena*, much paler than in either *anitw* or *nigricans*; skull smaller, lighter, less angular than in *anitw*, with bulle more fully rounded and basioccipital more constricted.

Color (rather worn pelage).—Upperparts pale ochraceous buffy much like *magdalena*; underparts dull creamy white, varying to pale buff across belly; feet and tail thinly clothed with whitish hairs.

Skull.—Much like that of *anitw*, but smaller, lighter, less angular; bulle more rounded; basioccipital narrower; incisors smaller; compared with *nigricans* skull smaller, with shorter rostrum; bulle more rounded; basioccipital more constricted, less triangular or wedge-shaped, sides more nearly parallel.

Measurements of type.—Total length, 208; tail vertebrae, 73; hind foot (dry skin), 29.5.

Vulpes macrotis devius subsp. nov.

PENINSULA DESERT FOX.

Type from Llano de Yrais, opposite Magdalena Island, Lower California, Mexico. No. 147,078, U. S. National Museum, Biological Survey Collection. ♂ adult. Collected December 13, 1905, by E. W. Nelson and E. A. Goldman. Original number 18,771.

General characters.—Similar to *macrotis* but distinguishable by much darker, usually blackish, sides of nose, and sides of under jaws in front (sometimes including entire chin); pelage shorter; tail smaller and slender.

Color (fresh pelage).—Upperparts silvery gray; forehead and cheeks buffy grayish; outer sides of legs, collar on underside of neck, and posterior base of ears deep ochraceous buff, deepest or most intense on hind legs; sides of neck, belly, underside of tail and sides of body along flanks between fore and hind legs varying from deep buff to pale ochraceous buff; throat, inguinal region and usually median line of belly white; ears, except at posterior base, buffy brown; feet buffy whitish above; ochraceous buffy below; lips, sides of muzzle (sometimes chin) and tip of tail blackish.

Skull.—About equal in size to that of *macrotis* but rostrum broader and

heavier; nasals broader, tapering more abruptly posteriorly; frontals less prolonged anteriorly between nasals and maxillæ; coronoid process narrower.

Measurements of type (ad. ♂).—Total length, 785; tail vertebrae, 285; hind foot, 129.

Bassariscus astutus palmarius subsp. nov.

SAN JOSÉ ISLAND BASSARISK.

Type from Comondu, Lower California, Mexico (altitude 700 feet). No. 146,192, U. S. National Museum, Biological Survey Collection. ♂ adult. Collected November 8, 1905, by E. W. Nelson and E. A. Goldman. Original number 18,500.

General characters.—Most like *saxicola* but slightly darker; facial markings clearer and more strongly contrasted, usually blackish or dark iron gray and clear white; skull relatively narrower; differs from *raptor* in smaller size, grayer color, much shorter fur and slenderer tail.

Color (fresh fall pelage).—Top of head and back grayish drab slightly suffused with buff and darkened by a slight wash of black on tips of long hairs; sides suffused with buff or pinkish buff, clearest along sides of abdomen; legs dull buffy, paling to creamy buff on feet; lips, anterior part of cheeks, and narrow area extending upward behind and over eyes whitish; size of muzzle, orbital rings and posterior cheeks blackish; ears brownish on posterior base and grayish toward tip.

Skull.—Similar to that of *raptor* but smaller; fourth upper premolar narrower; bullæ more rounded; size about as in *saxicola* but zygomatica less widely spreading; fourth upper premolar narrower; interpterygoid fossa narrower. Compared with *insulicola* interpterygoid fossa shorter and narrower, ending anteriorly near posterior plane of last molars (ending anterior to this in *insulicola*); bullæ more inflated.

Measurements of type.—Total length, 730; tail vertebrae, 367; hind foot, 72.

Bassariscus astutus insulicola subsp. nov.

SAN JOSÉ ISLAND BASSARISK.

Type from San José Island, Lower California, Mexico. No. 79,034, U. S. National Museum, Biological Survey Collection. ♀ adult. Collected August 7, 1895, by J. E. McLellan. Original number 1461.

General characters.—Closely related to *saxicola* and *palmarius* but color more ochraceous than either; the most yellowish of all the subspecies.

Color (worn summer pelage).—Upperparts dull drab suffused with dull ochraceous buffy, becoming darkest on top of neck and shoulders; and shading thence into pale dull buffy on underparts; tops of feet pale buffy; head grayer than body with poorly contrasted whitish and gray face markings as in *saxicola*.

Skull.—Zygomatic arches broad as in *saxicola*, but bullæ smaller and less inflated; interpterygoid fossa longer and narrower, reaching farther anteriorly between last molars; fourth upper premolar narrower and less triangular in outline owing to weaker development of internal lobe.

Compared with *palmarius* interpterygoid fossa longer, reaching further forward between last molars, and bullæ less inflated. The skull differs from that of *raptor* in slightly smaller size, with interpterygoid fossa usually narrower and reaching further forward; fourth upper premolar narrower and bullæ less inflated.

Measurements of type.—Total length, 715; tail vertebrae, 362; hind foot, 70.

Sorex lagunæ sp. nov.

LAGUNA MOUNTAIN SHREW.

Type from La Laguna, Sierra Laguna, Lower California, Mexico (5,500 ft.). No. 147,119, U. S. National Museum, Biological Survey Collection. ♀ adult. Collected January 29, 1906, by E. W. Nelson and E. A. Goldman. Original number 19,036.

General characters.—Similar in size to *S. ornatus* but underparts dark grayish brown instead of silvery grayish; tail dusky, nearly unicolor (in *ornatus* bicolor); feet darker.

Color of type (fresh pelage).—Upperparts nearly uniform dark grayish brown, browner than *ornatus*; underparts brownish, only slightly paler than back; feet dusky, darker than in *ornatus*; tail blackish, under side slightly paler than upper.

Skull of type.—Generally similar to that of *ornatus* but upper outline of braincase higher arched, or rising more abruptly from base of rostrum and more inflated, bringing highest point farther forward; molariform teeth slightly narrower, third unicuspid smaller.

Measurements of type.—Total length, 98; tail vertebrae, 41; hind foot, 12.5. Skull: breadth of braincase, 7.8; post-palatal length, 7.5; interorbital breadth, 3.5.

Sorex californicus juncensis subsp. nov.

TULE SHREW.

Type from Socorro, 15 miles south of San Quintin, Lower California, Mexico. No. 139,594, U. S. National Museum, Biological Survey Collection. ♀ (?) young adult. Collected September 1, 1905, by E. W. Nelson and E. A. Goldman. Original number 17,916.

General characters.—Size small; most like *californicus*, but tail slightly longer; feet darker; underparts tinged with dull brownish (grayish in *californicus*); braincase higher, narrower, less flattened.

Color (rather worn pelage).—Upperparts dull smoky brown mixed with grayish; underparts plumbeous overlaid with dull brownish gray; tail bicolor, dusky above, grayish below, becoming darker near tip.

Skull.—Similar to that of *californicus*, but braincase narrower, higher (more arched on upper outline); third unicuspid very small, as in *californicus*.

Measurements of type.—Total length, 101; tail vertebrae, 41; hind foot, 12.5. Skull: greatest length (condyle to front of incisor), 16.2; basion to gnathion, 13.9; breadth of braincase, 7.5; post-palatal length, 7.2; interorbital breadth, 3.5.

Myotis capitaneus sp. nov.

SAN JORGE BAT.

Type from San Jorge, 30 miles southwest of Comondu, Lower California, Mexico (altitude 100 feet). No. 146,046, U. S. National Museum, Biological Survey Collection. ♂ adult. Collected November 12, 1905, by E. W. Nelson and E. A. Goldman. Original number 18,526.

General characters.—Externally much like *M. californicus*, but slightly larger with ears shorter, more rounded; tragus shorter, more abruptly tapering, without distinct notch above lobe at posterior base; foot larger; skull more like *M. nigricans*, but rostrum still shorter, and braincase much larger, more inflated.

Color.—Fur of upperparts rich brownish cinnamon, becoming paler on head; underparts pale ochraceous buffy, tinged with brownish; muzzle dusky.

Skull.—Somewhat like that of *M. nigricans*, but shorter and broader; rostrum decidedly shorter; braincase much larger, more inflated anteriorly, arching more abruptly from rostrum; interorbital region broader; upper molars proportionately shorter and broader; crown of third upper premolar decidedly broader than long.

Measurements.—Total length, 92; tail vertebrae, 42; forearm (dry skin), 33.6; tibia (dry skin), 18.9; foot (dry skin), 7.4; thumb (dry skin), 5.8; height of ear (dry skin), 9.1. Skull: condylobasal length, 12.2; breadth of braincase, 6.9; depth of braincase, 5.1; maxillary toothrow, 4.5.

Myotis micromyotis sp. nov.

COMONDU LONG-EARED BAT.

Type from Comondu, Lower California, Mexico (altitude 700 feet). No. 146,044, U. S. National Museum, Biological Survey Collection. ♂ adult. Collected November 8, 1905, by E. W. Nelson and E. A. Goldman. Original number 18,490.

General characters.—Much like *M. erotis*, but slightly smaller, with proportionately much smaller ears, thumb and claws; braincase more inflated anteriorly; free borders of interfemoral membrane indistinctly ciliate as in *erotis*.

Color.—Fur of upperparts, including middle of face, light golden cinnamon; sides of face thinly covered with dusky hairs; underparts gray, slightly tinged with buff.

Skull.—Similar to *erotis*, but narrower; braincase higher, more inflated anteriorly, arching more abruptly from rostrum; palate narrower behind molars; bullae smaller. From that of *milleri* the skull differs in the same characters as from *erotis*.

Measurements.—Total length, 90; tail vertebrae, 42; forearm (dry skin), 35.8; tibia (dry skin), 18.2; foot (dry skin), 7.9; thumb (dry skin), 5.7; height of ear (dry skin), 14.6. Skull: condylobasal length, 14.5; zygomatic breadth, 14.3; breadth of braincase, 7.2; depth of braincase, 5.3; maxillary toothrow, 6.2.